

Title (en)
NUCLEAR MAGNETIC RESONANCE METHOD AND APPARATUS

Publication
EP 0109238 B1 19890118 (EN)

Application
EP 83306723 A 19831104

Priority
GB 8232144 A 19821110

Abstract (en)
[origin: EP0109238A2] A method of nuclear magnetic resonance imaging of a body in which the spins of a chosen nucleus in a selected slice (43) of the body are rotated through an angle appreciably greater than 90° by applying, in sequence, two substantially identical r.f. pulses ($B_{1</sub>1</sub>(90^\circ)$, $B_{2</sub>2</sub>(90^\circ)$) accompanied by a magnetic field having a gradient ($G_{1</sub>1</sub>z$, $G_{2</sub>2</sub>z$) in a direction orthogonal to the plane of the slice (43). Each r.f. pulse is at the Larmor frequency for the chosen nuclei in the slice (43), and is effective to rotate the spins by not greater than 90° and the r.f. pulses together are sufficient to rotate the spins through the angle. The gradients of the magnetic fields are in opposite directions.

IPC 1-7
G01N 24/08

IPC 8 full level
A61B 10/00 (2006.01); **A61B 5/055** (2006.01); **G01R 33/48** (2006.01); **G01R 33/54** (2006.01)

CPC (source: EP US)
G01R 33/482 (2013.01 - EP US)

Cited by
EP0207765A3; EP0300564A3; EP0245154A1; FR2598509A1; US4739267A; EP0226247A3; WO2018023160A1; WO8809929A1

Designated contracting state (EPC)
DE FR NL

DOCDB simple family (publication)
EP 0109238 A2 19840523; **EP 0109238 A3 19850529**; **EP 0109238 B1 19890118**; DE 3378993 D1 19890223; GB 2129568 A 19840516; GB 2129568 B 19860430; GB 8329579 D0 19831207; JP H0357774 B2 19910903; JP S59107247 A 19840621; US 4564813 A 19860114

DOCDB simple family (application)
EP 83306723 A 19831104; DE 3378993 T 19831104; GB 8329579 A 19831104; JP 20977583 A 19831108; US 54596483 A 19831027